

Northside Seed Grant

**A Guide to Future Outcome Assessments of Family
Support Service Programs at Phyllis Wheatley
Community Center**

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Phyllis Wheatley Community Center

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**A GUIDE TO FUTURE OUTCOME ASSESSMENTS OF
FAMILY SUPPORT SERVICE PROGRAMS AT PHYLLIS
WHEATLEY COMMUNITY CENTER**

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INTRODUCTION

This is the final report to Phyllis Wheatley Community Center (PWCC) on assessing outcomes in its Family Services Program (FSP). The project was conducted from June 18 to August 25 2007 as a 50% summer student research project, which was funded by the Center for Urban and Regional Affairs (CURA), University of Minnesota and the PWCC in Minneapolis. As proposed by Mr. Gustafson, the goal of this research project was to produce a cost-benefit analysis of the PWCC's Family Service Program. He stated to the author that "we believe there is a need to determine what, if any, return on investment there is for programs that provide family stability services including anger management, domestic violence prevention, self-sufficiency planning, and effective parenting for high risk populations." A research team was formed to provide guidance to the author that included Mr. Gustafson and Mr. Nelson. In July, Dr. Gibson joined the team.

The PWCC has been one of a few non-profit organizations that provide comprehensive quality programs in life-long learning, child development, and family support services for diverse communities living in greater Minneapolis and surrounding areas. Appendix A provides statistics about the population served from the year 2003 to 2006. The center's mission is to reduce and eliminate neglect and abuse; resolve

conflicts in a non violent manner, and access services necessary to become stable, self-directed, and contributing members of the society. In the process of building healthy communities, some of the major issues addressed through PWCC's services are parenting, anger management, domestic abuse, early youth interventions, school success, child therapy, economic empowerment, and life-long learning. Family service is one of the core areas of its services (Minnesota Common Grant Application, 2007).

As per Mr. Gustafson, PWCC is currently engaged in assets building process to further enhance the quality of the FS program to better serve its targeted communities. In an assets building situation, it is important to acknowledge that there are many challenges inherent in tracking and evaluating human services work. Hence, there is a need to design cost-effective evaluation solutions that inform program designers through a continuous learning process. In line with assets building process approach, the team identified some of the key research needs that need to be addressed and strengthened the PWCC's current FSP to provide more effective services in the future while maximizing the use of limited resources. In doing so, the team carried out an investigation of the current project implementation processes, documents, and data to propose a cost-effective outcome assessment research framework.

After an in-depth examination of data both within and outside the PWCC, it was found that there are several limitations that constrain the research team in quantifying the true benefits over the investment of the program. Specifically, we were concerned with the research needs listed in the appendix B. Hence, the research team unanimously agreed to change the original purpose to design a research framework that would guide future outcome assessment of family service programs. This research framework would also prepare PWCC to conduct a systematic evaluation of and costs and benefits in the future. Thus, this report provides recommendations for a new research process that will position PWCC to assess program effectiveness of the FSP.

After exploring the factors in Appendix B and based on many discussions, recommendations were made to prepare the agency to collect relevant data in a systematic and cost-effective manner. This report provides a design that would guide an assessment of outcomes of FSP. This would involve

1. Reviewing and revising data collection instruments
2. Making recommendations for future data collection from not only consumers but also from staff and the broad and
3. Provides suggestions for data collection procedures.

The reports used in this study were audited annual financial reports, original grant proposals, annual progress reports submitted to the United Way, pre and post program evaluation instruments, participant satisfaction and intake instruments, and

flyers of each program of the PWCC. Those evaluation instruments of the PWCC's family service program include: Parenting, Women's Domestic Violence, and Anger Management Programs. The annual reports include aggregated participants' demographic and economic data and some of the success stories written by the graduated participants.

During weekly meetings, a random sample of completed instruments were inspected by Dr. Gibson, Mr. Gustafson, and the author to determine key indicators that could be used to measure impact. The team reviewed these instruments and made recommendations for revision to capture positive and negative outcomes of the program. The team unanimously agreed that there was a need to revise the instruments to measure outcomes and to philosophically link the measurements to the logic model of the program.

Library and Internet searches were conducted to find relevant studies and outcome evaluations in the literature. Using available secondary sources, an extensive literature review was carried out and the salient points were described in the literature review.

Another search was conducted to find publicly available databases in Minnesota. Thus, the databases maintained by the Department of Correction, Minnesota Police Department, and Hennepin County were used.

This report contains the following sections. First, a brief evaluation of PWCC's family service programs. Second, an assessment of data collection instruments used in each of the programs. Third, a review of the literature of assessing outcomes, costs and benefits of family services. Fourth, the recommendations formulated. Fifth, appendices which include revised instruments, an annotated bibliography of studies of cost-benefit analysis, participant data, and expanded logic model of Parenting, Women's Domestic Violence, and Anger Management programs.

OVERVIEW OF PWCC FAMILY SERVICES PROGRAMS

The PWCC's main areas of services include providing life long learning, family support services (FSP), and youth development programs for at risk families in Minneapolis community. (Effective Parenting Program flyer, 2007). PWCC's FSP program includes three programs: (a) Parenting, (b) Women's domestic violence, and (c) Anger management programs. Each program serves different target groups. In certain instances, a few participants attend more than one program depending on their needs. A brief description of the three programs, the type of instruments used to collect data, and the need for future research is given in the following section.

Parenting Program

The goal of this program is to develop necessary skills and support networks to meet family needs and ensure family stability. As stated in the logic model, the participants are mainly from North Minneapolis where the highest number of families is either single parents or teen mothers. Services to those families are parenting skills, knowledge, resources, and support network to balance their work and family lives (Logic model, 2007).

As per the logic model, the outputs are provision of services such as referrals, coaching, mentoring, counseling, advocacy, and developing network to access resources. The expected short-term outcomes are skills to complete intake assessment which includes identifying personal and community assets and creating personal action plans. The intermediate outcomes are behaviors such as delayed pregnancies, strengthened parenting skills, and demonstrated progress in completing the action plans. The long-term outcomes are to develop knowledge and behaviors to maintain healthy relationships, support network, and positive parenting skills required for family stability. Thus, knowledge, skills, and behavioral changes are the expected outcomes after completion of the program. To assess impact of long-term outcomes, there ought to be long-term follow-up data. The instruments need to have questions that measure outcomes

such as number of participants who met their goals, increased parenting skills, and enhanced strength of family and social relationships.

Several instruments are being used to collect data such as intake instruments, pre and posts, program evaluation feedback are some of them. Those instruments need revising to collect participants' background data, needs assessments, and assess the effectiveness of the intervention in terms of meeting participants' goals and needs as well as organizational goals. The questions should be revised to capture the needs and goals of the participants, the intensity, and the depth of the change generated within the families as a result of participation in the program.

Women's Domestic Violence Program

Overall goal of the Women's Domestic Violence (WDV) Program is to provide safety and healthy lives to battered women and children. Currently, a logic model is being used as a guide to implementing the program and assessing participant outcomes. As per the logic model, the outputs are consultations, legal advocacy, 24/7 crisis line services, follow up meetings, referrals for jobs, financial education, opportunities to participate in community events for networking, pre and post tests on knowledge of domestic abuse and self esteem, and guidance to develop an individualized resource notebook. The expected short-term outcomes are acquisition of skills to access resources

to meet individual's needs. The intermediate outcomes are improved self-esteem, enhanced community resource utilization, and demonstrated knowledge and skills to live abuse free healthy lives. The long-term outcomes are participants live at least one year of abuse free independent and self-sufficient lives. The expected outcomes are related to knowledge and skills development such as knowledge of empowerment about domestic violence, goal setting, generating a resource book, enhanced self esteem, and other skills that lead to strategic behavior and safety of the participants.

The evaluation instruments currently used are pre-test and post-test on self-esteem and domestic abuse, a participant satisfaction survey, and program outcome questionnaire. In addition, intake instrument is administered to obtain background data. In total, five different instruments are being used. The obvious gap is that most questions do not capture the effectiveness in relation to the goals of the program or the participant's needs. Data ought to be collected to measure effectiveness of client satisfaction, goal, self esteem, abuse-free lives, and self sufficiency. In addition, the logic model should define self-sufficiency in terms of increased income, acquired home ownership, and newly acquired skills. There ought to be follow-up research after completion of the program.

Anger Management Program

There are anger management programs for both women and men who have been in the criminal justice system for committed crimes. Those participants in general are referred to PWCC by the Hennepin County and the Dept of Corrections. If not for their participation in the PWCC's family service programs, some participants may end up in prison for life time or a specific time period depending on the seriousness of the felonies and the court decision. It is apparent that PWCC's program is truly supporting the referral institutions and building healthy communities.

The goal as stated in the logic model is to transform those offenders from chemical dependence to chemical free lives through PWCC's program which offers education, therapy, and referrals to community resources. As per the logic model, the program inputs are individual counseling, workshops, mental health assessments and therapies, financial education, job placements, and guidance to develop emotional responsibility plans. The expected short-term outcomes are that participants fulfill legal obligations, sign contracts to remain chemical free lives, and develop anger control plans. The intermediate outcomes are to improve interpersonal, family, and community relationships, reduce violence at home and in the community, and exit the criminal

justice system. The long-term outcomes are increased self-esteem and sense of responsibility and use resources and skills to maintain stability. Thus, the logic model clearly identifies the impact indicators that can be measured constantly beginning from graduation day.

The evaluation method in the logic model is to administer pre and post anger management and violence assessments and post-program feedback. In addition, an intake instrument obtains general background of the participants. Though, the logic model suggests assessing the number of successful graduates who exit the criminal justice system and reduced number of violence incidents and arrests through self reports and periodic follow-up assessments, such evaluations have not been created and thus are not yet available to assess these impacts. Hence, the problems such as no logical link between the logic model and the instruments, lack of periodic follow-up data relevant to measurable impact indicators, inconsistent data, and lack of client needs satisfaction data are apparent.

Overall Assessment of the PWCC's Available Data

By developing a logic model that includes inputs, outputs, and outcomes for each program, PWCC's has taken the initial step to assess program effectiveness based on the change theory. The FSP has provided services for more than five years. Based on

available data, it is possible to assume that the PWCC's FS programs provide valuable services that result in cost-savings. However, with regard to assessing the impact and effectiveness of the program, the team recommended that PWCC address the needs in the previous sections of this report.

The logic model specifies evaluation methods. However, there is a mismatch among the (a) pre-and post-tests, (b) follow-up evaluation, and (c) outcome goals stated in the logic model. Because of this problem, the instruments do not capture the participants' behavior change as a result of completion of the program. Due to the lack of logically developed instruments alone with the outcomes specified in the logic model the team suggested revisions to all the instruments to capture the participant's satisfaction towards meeting their goals. In addition, there should be a systematic follow-up research procedure to collect data in each of the programs.

LITERATURE REVIEW

The purpose of this literature review was to find empirical evidence from previous research on outcome evaluations relevant to parenting, women's domestic violence, and anger management programs to guide our proposal to develop a research design for assessing the impact of FSP. Results showed a general lack of outcome, impact assessments, and cost-benefit analysis or cost effectiveness studies relevant to

family social services, parenting or anger management programs. There are a few studies that dealt with specific subjects such as domestic violence prevention, youth intervention and mentoring, crime and justice, and child maltreatment. Hence, a few closely related studies were selected for review. The first section includes a brief definition of impact assessment, its significance, commonly used methodologies, examples of likely impact indicators, and findings from previous studies. The second section contains a brief description about cost-benefit studies, some of the key findings, and limitations. The third section summarizes outcome assessment research framework.

Literature Relevant to Impact Assessments of Family Social Service Interventions

Impact assessment of social service programs is defined in several different ways. Guidelines and Principles for Social Impact Assessments of the U.S. Department of Commerce (2005), defines it as assessing or estimating the social consequences that follow from specific action/program leading to policy changes. The European commission (2005) describes it as assessing outcomes and benefits in a systematic manner to build and develop interventions or social practices. Sullivan (2001) describes it as the measurable change due to the program effort. Impact assessment needs an outsider's unbiased perspectives, which will generate impartial view of both sides as such successes and failures; gains and losses (Patton, 2002; Maluccio, Canali, &

Vecchiato, 2002; Berry & Cash, 2002; Rossi, Freeman, & Lipsey, 1999). It is also

recommended that programs ought to be measured individually. The findings of impact

assessments are directed toward answering the following questions.

1. What is the likely economic, social, and environmental impact
2. What are the advantageous and disadvantages of those interventions
3. How future monitoring and evaluations are structured
4. What changes occur as a result of the intervention (Berry & Cash, 2002; Rossi, et al., 1999; Sullivan, 2001).

Impact assessments are used to find out whether the interventions actually produce the intended effects (Rossi, et al., 1999).

Rossi, et al (1999) stated that “Impact assessment can be relevant at many points throughout the life course of social programs” (p. 235). They can vary in intensity and severity depending on the purpose and the intention of the organization. Studies use different methodologies to assess the impacts of social service programs. One method is comparing the outcomes of the participants with non-participants. Another method is to administer repeated measurements on participants before and after the intervention to assess the changes (Rossi, et al., 1999). Longitudinal studies are also used to assess the periodic impacts or changes in participants’ lives. Both quantitative and qualitative impact assessments can be used. However, the chosen research method should be able to capture and isolate the effects to estimate or measure the magnitude of the impact or

change occurs as a result of the intervention.

Selection of outcome variables to measure the impact of an intervention is crucial for the success of impact assessments (Sullivan, 2001; Rossi, et al., 1999). Some outcome variables used in previous research are participants' attitudes, meanings, perceptions toward the intervention, and significant changes made in their lives and the society. To understand and compare the changes there must be an understanding of past behaviors and conditions of individuals. Hence, the impact assessment must begin as early as preparing the proposal for funding and designing the intervention (Rossi, et al., 1999).

Outcome assessments need to focus on needs and risk factors associated with individuals and families. Therefore, the services must be individually tailored to these different risks (Berry & Cash, 2002). In measuring outcomes, the measuring indicators need to be tied to the needs and the goals of the intervention. For example, parents and families need to possess particular parenting skills and resources to sustain and nurture their family members and to avoid child maltreatments and abuse. Child maltreatment and abuse are related to poor parenting skills, parental depression, family stress, economic hardships related characteristics and conditions (McDonald & Marks, 1991).

The common problems are that outcomes are difficult to measure. “The difficulties in defining measurable outcomes and the conditions required for evaluating the effectiveness of services” are problematic (Vecchiato, 2002). Most often outcome evaluations are misinterpreted (Sullivan, 2001). Hence, the effective evaluations first begin with defining the overarching goals and objectives. Outcomes must be measurable and philosophically tied to the activities of the program or intervention (ibid). Outcome can be measured in different phases. The participants should be involved in the process of measuring outcomes. Outcome in other word is the measurable change due to the effect of the intervention. Time period is important because outcomes can be short-term or long-term. In this process, participants’ satisfaction about the services is useful as it can measure the degree to which the program meets the needs of the participants. Participant’s needs satisfaction instrument linked to clearly identified outcome indicators is a must because they can inform the researcher about the suitability of the intervention to meet different needs and experiences of the participants. Moreover, organization’s readiness is critical for assessing the effect of the program. Hence, when to evaluate is important determination in impact assessments.

As the first step, participant satisfaction survey can indicate the suitability of the intervention and need of any modifications to the programs. Participant satisfaction

surveys were originated in 1960s and 1970s to hear feedback from service recipients to make decisions about the health care service interventions to assess outcomes for the participants (Walsh & Lord, 2004). Participant satisfaction surveys were regarded as important and integral component in social service evaluations (O' Neal, 1999). This type of participant feedback is also used to measure the usefulness and appropriateness of the intervention and compare with other similar interventions. One crucial point about participant satisfaction surveys is that they tend to measure single factor of satisfaction (O' Neal, 1999). Hence, such satisfaction surveys do not capture the potential range of true outcomes of an intervention as they most often capture positive impressions of the intervention being evaluated. Therefore, in designing participant satisfaction survey, one must use appropriate research methods to capture reality. Walsh and Lord (1999) state that qualitative research method is more capable of detecting negative experiences through in-depth interviews. Quantitative method using standardized instrument can capture different experiences across different settings. Most often, combination of both qualitative and quantitative method is recommended in participant satisfaction surveys.

Literature Relevant to Cost-benefit Assessments

Cost-benefit studies relevant to family social services are rare. Because PWCC's original goal was to carry out a cost-benefit research for the family service program, the

following section includes a brief review of the closely related studies in order to understand what it is, the advantages, disadvantageous, processes, sources of data, and possible costs and benefits indicators.

According to Murphy and Datel (1976), cost benefit analysis is a useful tool for analyzing the economic results of a course of action. However, it is important to note that cost benefit cannot give ready-made answers because dollar values cannot be attached to every significant social outcome variable. Hence, cost benefit analysis usually rest upon conservative assumptions and projections (Aos, Phipps, Barnoski, & Lieb, 2001). The lack of thorough and rigorous evaluation research hampered the ability to produce precise estimates of costs and benefits of particular programs (Anton & Temple, 2007).

Costs and benefits of an intervention are assessed based on different perspectives such as participant, organization, and community (Rossi, et al., 1999). The most frequently cited studies such as Aos et al. (2001), and Cohen (2001) assess the benefits of communities and victims perspectives as social costs. Hence, the benefits are seen as social cost savings for taxpayers and victims. For example, avoided crime cost is seen as the benefit to community after a juvenile crime prevention program over its implementation costs per participant. Thus, the findings or the impacts after completion

of a service program are converted to dollar values to calculate the return on the invested dollars in training or the service. Most often values are assigned based on the public costs incurred for incarceration, investigation processes, costs of courts and related legal processes, medical costs of treating the victims, and productivity losses of victims are some of the basis of calculating the saved costs which are considered as the benefits. Hence, finding such costs is highly dependent on publicly available government data. For example, Cohen (2000)'s study uses data such as number of averted crimes, number of injuries prevented, and cost per life saved. Aos et al.'s (2001) study uses cost savings such as reduced number of teen pregnancies, reduced substance abuse, and reduced murders as benefits. Those studies use multiple sources and conservative cost estimates based on many assumptions and consensus of the research teams. Previous studies show that there is no specific source as such to calculate costs or savings of family social services programs at national or State level.

There is no literature that demonstrates proper research framework or comprehensive data sources in Minnesota to find the basis of assigning dollar values to key benefit-cost indicators. Unfortunately, there were no similar cost-benefit studies or a publicly accessible database that could be used to estimate the costs and benefits to participants and various stakeholder organizations or to the community. There are a few

studies that dealt with specific subjects such as domestic violence prevention, youth intervention and mentoring, crime and justice, and child maltreatment found in other parts of the U.S. and Canada using cost-benefit analysis. The following are some of the findings from empirically tested cost-benefit studies carried out in other parts of the U. S.

The Institute of Policy Research in Washington has done remarkable research to develop a foundation for cost-benefit analysis; however, the data are relevant to Washington State. Due to differences of costs structures and interventions, it is difficult to use the same costs data in Minnesota. It is impossible to develop one universal model of cost-benefit analysis as program goals, methods of implementation, participants, costs and benefits, and so on are vastly different from each program.

Different researchers use different methods to calculate costs and benefits of social service programs. For example, Aos et al.'s study (2001), the most frequently cited cost-benefit analysis of nine different social service programs, use comparison groups to compare the differences of costs and benefits of selected interventions with non-intervention groups. Some studies use outcome data of a single program to measure periodic benefits. The selection of a suitable cost-benefit model is dependent on the purpose, resources, and the expected uses of the findings of analysis by its implementers.

Further, the benefits of social service programs can have immediate benefits as well as long-term benefits (Aos et al., 2001; Miller, Cohen, & Rossman, 1993; Berry & Cash, 2002). Long-term benefits can be multiple, though unplanned at the beginning of the program. Environmental factors such as income, natural disasters, and changes in family structures and so on can have positive or negative influence. Therefore, periodic constant follow up-research is useful to monitor those variations and quantify the true benefits of a program (Miller, et al., 1993). It is important to collect data on individual program participants and separate costs of each program to have more detailed analysis. The follow up data can be collected periodically depending on the purpose and resources (Rossi, et al., 1999). The annotated bibliography in the appendix E provides more details of empirically tested cost-benefit studies of social service programs.

It is crucial to select the best measures to assess the outcomes of social service programs because “a poorly conceptualized outcome measure may not properly represent the goals and objectives of the program being evaluated.” (Rossi, et al., 1999, p. 250). It lacks validity. Also unreliable measures do not show the true impact. There is a general lack of well-conceptualized cost-benefit analysis or impact assessments and assessment frameworks relevant to family social services provided to African American and other

ethnic minorities in the U. S. This is a serious gap exist in both cost-benefit and impact assessment research.

Though measuring the benefits over program costs is a highly complicated issue as it carries many ambiguities, this literature review confirms that it is possible to precisely measure the benefits and costs. However, it requires a comprehensive program specific impact data using a systematic data collection method based on a well-developed research framework linked to each program in Minnesota. It involves several phases of impact assessments, with a well-developed research framework for a rigorous research. It is based on several factors such as the readiness of the program, resources, and sufficient time to accrue benefits, and participation of many stakeholder organizations. Therefore, measuring participants' satisfaction and revising the outcome goals become the immediate need that makes the program ready for future impact assessments and cost-benefit analysis.

RECOMMENDATIONS

Our recommendations are directed toward preparing the agency for future impact assessments based on participant oriented approach to measuring participants' needs and goals. Therefore, initially an outcome assessment of all three programs is recommended to examine whether the FSPs have helped participants to achieve their goals and needs.

Collecting baseline data at intake to obtain clients' needs and goals is essential.

Participants satisfaction is crucial for sustenance of FSP and to determine the appropriateness of goals, objectives, and program activities to meet participants' needs.

Once participants' satisfaction is measured, it is important to revise the goals and objectives of the program plan and the logic model to fit the targeted participants' needs and to make the agency ready for a comprehensive impact assessment and a cost-benefit analysis. Following are the recommendations to the agency about changes of instruments and plan for an outcome assessment, the staff, and the board of the PWCC. It includes suggestions to revise the intake procedures, participant satisfaction instrument, post program outcome assessment, and some changes to instruments such as intake, needs assessment, and post-program follow-up instrument.

Usage of intake instrument

1. Use information collected at intake as baseline data. It may be used to track referral sources and compared to other measures on clients.
2. Incorporate questions such as income, demographic information (age, sex, family status, mental and physical treatment, health status, employment, types of crime committed, home ownership/renting, children and family safety issues, which will be helpful when conducting cost-benefit analysis and tracking behavior changes.
3. Develop a system to store individual and group level data.
4. Include questions on intake forms about the number of services received from PWCC and in the FSP respectively.

Revise needs assessment instrument and procedures to administer it

1. Assess each participants needs at intake or well before receipt of program services
2. Incorporate results from needs assessment into program services
3. Structure program services to facilitate meeting the needs of participants in areas such as expectations of program services and referrals to community resources for basic necessities.
4. Make a logical link among assessments questions, participants' goals, and services rendered.

Revise Participant satisfaction survey instrument

1. Test the revised Participant Satisfaction Survey (see Appendix C). This is a draft.

Before using it with clients, follow the procedures below

- a. Elicit comments from program staff
- b. Test with a small group of clients (between 3 to 7 from each program)
- c. After discussing feedback, incorporate relevant changes

Program Outcome Assessment Instrument

1. Test the revised Program Outcome Assessment Instruments that are labeled Appendices B, C, and D respectively.
 - a. Elicit comments from program staff
 - b. Test with a small group of clients (between 3 to 7 from each program)
 - c. After discussing feedback, incorporate relevant changes
2. Insure that questions capture both positive and negative aspects of services.
3. Include questions that capture qualitative data such as life stories (a) about need for services being rendered, (b) behaviors before services, during services, and after completion of services about targeted problems, (c) benefits and challenges of changing behaviors, and (d) interactions with significant others that showcase use of new skills or challenges in using new skills.
4. Collect data on the numbers of reduced crimes and exiting the criminal justice system, obtain new jobs, and increase income are suggested as they will be useful when conducting a cost-benefit analysis
5. Note that despite this instrument's similarity to the Participant Satisfaction Instrument, there are some differences in terms of goal achievement, barriers, and behavior changes in relationship to program's goals of reducing domestic

violence, crimes, chemical dependency, and increasing safety, income, and family and community relationships.

6. Revise this instrument periodically, which must then logically translate into program revisions
7. Conduct repeated outcome assessments with three- or four- month intervals and annually to assess both short- and long-term impact.

Suggestions to the staff

1. Use expertise in assessing evaluation process and instruments
2. Educate clients when they begin services regarding
 - a. Evaluations are vital to effectiveness service delivery
 - b. Their role in the data collection process
 - c. Data collected from them is confidential and their names are removed in the analysis process
 - d. They assist the agency with improving services by completing evaluation forms
3. Develop procedures to systematically collect data from clients that fit with your program services.
 - a. Insure that each client has an agency identification number (ID) if this is not already in place.
 - b. Prepare forms so that clients ID will be on their respective forms
4. Develop procedures to systematically submit collect data from clients
 - a. Explain procedures to clients (individually and in groups)
 - b. Schedule time before services begin to provide forms, read questions, and collect completed forms
 - c. Develop procedures to store collected data.
 - d. Keep record to data collection (date, numbers completed, persons not completing forms, etc)
5. Review completed forms with supervisory staff and consider using results from data collection to improve program services
6. Actively participate in the revision of drafts of program instruments (see Appendixes A-D) and the preparation of PWCC to evaluate its services.

Suggestion to the Board and Agency Executive Director

1. Acknowledge staff's expertise in this process and the extra work involved in conducting evaluations.
2. Support the development of a systematic evaluation process in the agency as a valuable tool for continuous improvement and to measure program effectiveness
3. Provide resources to staff to conduct evaluations and other kinds of research efforts.
4. Facilitate periodic staff trainings to conduct evaluation
5. Review evaluation results, discuss them with staff and director
6. Use evaluation results to make appropriate recommendations for changes in the services to increase program effectiveness.
7. Seek funding to facilitate the continued evaluation of PWCC's services

LIMITATIONS

Despite the intense work put into the project, the following limitations are noted.

First, the instruments were revised by the Research Team minus the input from staff and without being tested with clients. The lack of time played a role in these omissions.

Second, no direct staff person was included on the Research Team. Inclusion of staff would have provided valuable information about the current collection process and the types of questions needed, culture of the agency and culture of the clients. Third, despite forwarding recommendations to the Board of Directors, no contact was made with this group during this project. It is assumed that the Board was apprised of the project. It is

suggested that Mr. Gustafson made a presentation of this report to the Board and solicit its support in instituting the recommendations.

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APPENDIXES

Appendix A: The Participants Served by the PWCC From Year 2003 to 2006 - all programs

Ethnicity	2006	%	2005	%	2004	%	2003	%
African	21	2.8	63	6.1	26	3.5	22	7.9
African American	547	74.2	716	69.8	617	84.5	639	81.6
American Indian	10	1.3	12	1.1	14	1.9	6	0.8
Asian/SE Asian Pacific Islanders	13	1.7	19	1.8	7	0.9	2	0.2
Caucasian/white	118	16.0	157	15.3	50	6.8	53	6.7
Hispanic/Chicano/Latino	18	2.4	23	2.2	4	0.5	26	3.3
Multiracial	9	1.2	35	3.4	11	1.5	35	4.5
Other	0	0	0	0	0	0	0	0
Race unknown	1	0.1	0	0	1	0.1	0	0
Total	737	100	1025	100	730	100	783	100

Source: Annual Reports of the PWCC year 2003, 2004, 2005, and 2006

Appendix B: Research Needs

1. To develop a systematic procedure for collecting data. All data collection instruments ought to be linked and used in the evaluation process.
2. To identify outcome indicators. Available data do not capture the benefits such as increased safety at home, reduced crime, increased family relationships, changed attitudes for a better life, increased income, and benefits of family reunion, fulfillment of participants' needs, goals, and so on.
3. To develop a procedure to collect data on participants who completed more than one program.
4. To develop a data management system that tracks individual participants' needs, goals, background data, post-program behaviors, and changes occur in their lives.

Appendix C : Satisfaction Survey Instrument

Family Service Program Satisfaction Survey

Phyllis Wheatley Community Center

Program name: _____ **Date:** _____

Participant ID : _____ **Numbers of sessions attended:** _____ **# sessions missed:** _____

Please provide the answers to the following questions to the best of your abilities

For question 1, mark "X" in the box that closely matches your answer

1. How has this program helped you?

A. It increased my knowledge of parenting/anger control/domestic violence (this need to be changed according to the program)

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

B. I learned how to response to the needs of my family more effectively

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

C. I learned new skills that I can use for my work/home

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

D. I learned what I wanted to know from this program

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

E. I got the help I expected from this program

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

F. During the program I felt respected

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

G. During the program I developed my self confident

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

H. The content of the program was sensitive to my culture

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

I. The reading materials used are easy to understand.

Strongly disagree: _____, Disagree: _____, Agree: _____, Strongly Agree: _____

J. The services I received are very relevant to solve my problems.

Strongly disagree: ____, Disagree: ____, Agree: ____, Strongly Agree: ____

2. To improve the program, I have these suggestions

_____, _____ and _____

3. I have encountered barriers during the program

_____, _____, and _____

4. My suggestions to eliminate such barriers in the future

_____, _____ and _____

5. I was able to meet my goals for attending the program

_____, _____ and _____

6. I need services to achieve my individual goals in the future

_____, _____ and _____

7. Provide a brief story about your experiences in this program.

Appendix D: Outcome Assessment Instrument - Parenting Program

Phyllis Wheatley Community Center

Program name: _____ **Date:** _____

Participant ID : _____ **Numbers of sessions attended:** _____ **# sessions missed:** _____

Please provide the answers the questions below to the best of your abilities

1. My goals for attending this program were

_____, _____, and _____

2. The goals I have achieved

_____, _____,

and _____

3. After completion of the program, I learned new parenting skills

_____, _____, and _____

4. I will use strategies to ensure the safety of my children

_____, _____, and _____

5. Would you recommend the women's domestic violence program to others? **Yes** () or **No** ()
(circle one)

Why _____

—

6. I have changed three things as a result of participation in this program

_____, _____, and

7. I could not achieve my goals due to

_____, _____, and

8. Here is my story about how this program was benefited to me

Appendix E: Outcome Assessment Instrument- Women's Domestic Violence Program

Phyllis Wheatley Community Center

Program name: _____ **Date:** _____

Participant ID : _____ **Numbers of sessions attended:** _____ **# sessions missed:** _____

Please provide the answers to the following questions to the best of your abilities

1. 1. My goals for attending this program were

_____, _____,

and _____

2. The goals I have achieved

_____, _____,

and _____

3. After completion of the program, I learned these strategies to be safe

_____, _____, and _____

4. I learned strategies to ensure the safety of my children

_____, _____,

and _____

5. Would you recommend the women's domestic violence program to others? Yes () or No ()

Why _____

—

—

—

6. I have changed three things in my life as a result of completion of this program

_____, _____, and

7. I could not achieve my goals due to

_____, _____, and

8. Here is my story about how this program was benefited to me

Appendix F: Program Outcome Assessment Instrument: Anger Management Program

Phyllis Wheatley Community Center

Program name: _____ **Date:** _____

Participant ID : _____ **Numbers of sessions attended:** _____ **# sessions missed:** _____

Please provide the answers to the following questions to the best of your abilities

1. My goals for attending this program were

_____, _____,
and _____

2. The goals I have achieved

_____, _____,
and _____

3. After completion of the program, I learned new skills to cope with my anger

_____. _____, and _____

4. I will use strategies to live a chemical free life

_____. _____, and _____

5. Would you recommend the women's domestic violence program to others? Yes () or No ()
(circle one)

Why _____

6. I have changed the three things in my life as a result of completion of this program

_____, _____,
and _____

7. I could not achieve my goals due to

_____, _____, and

8. Here is my story about how this program was benefited to me

Appendix G: Annotated Bibliography on Cost-Benefit Studies

Anton, P. A., & Temple, J. (2007). *Analyzing the social return on investment in youth mentoring programs: A framework for Minnesota*. Wilder Research. Published by the National Federal Reserve Bank in Minnesota.

This report presents a simple model for short-term cost-benefit analysis of youth mentoring programs. The model can be used as an example to calculate costs and benefits of many social service programs in Minnesota. It uses secondary data from previous cost-benefit studies done in Washington States and various other parts of the U. S. This is the only example of cost-benefit analysis that has measured several benefit indicators found in Minnesota. The Mentoring Partnership Minnesota Institute together with the Canter for 4H & Community Youth Development of the University of

Minnesota jointly conducted this study to find the social return on investment of a youth mentoring program.

The youth mentoring program aims to transform offender children and youth to committed and caring adults by developing skills and building positive attitudes that help them to be productive and fulfilled citizens (Anton & Temple, 2007). Mentoring program also provides services to adults such as guidance and friendship to children and youth. In this program, caring adults are placed in a relationship with young people who will benefit from the mentor. Those adults engage in cultural and social activities and coordinate with children's family. It includes three types of services: community based, school based, and faith based programs.

This study used secondary data from implementing programs such as brochures, pamphlets or descriptions of programs, program evaluation reports, and interviews with several administrators of such programs. They used six benefit indicators to estimate the perceived or likely benefits from the mentoring program. They are

- Improved school attendance and performance: (a) increased school graduation rates, (b) lowered school costs (less grade retention, lowered truancy)
- Reduced crime: both juvenile and adult crime (a) reduced administrative costs of arrest and conviction, (b) reduced costs of treatments and or incarceration, (c) reduced costs of post-treatment probation, (d) reduced losses by crime victims, and (e) reduced risk of crime

- Reduced need for social services: (a) reduced near-term cost of family counseling and services and (b) reduced long-term costs of public assistance and services.
- Enhanced hope for the future (reflected in increased lifetime earnings)
- Improved health outcomes: (a) teen pregnancy reduction, (b) reduced or delayed use of alcohol, tobacco, illicit drugs, and (c) greater fitness and reduced health care costs
- Increased workforce preparedness (Anton & Temple, 2007, p. 8)

Some of these benefits are realized immediately while some others are achieved in a long run.

This study provides a model for calculating cost-benefit analysis of social service programs. However, the limitation of this study is that it uses the cost and benefit data from Washington State as calculated by Aos et al. (2001) and other secondary data from research carried out in other states to depict an example model of how to calculate costs and benefits of social service programs. Though the model is simple and usable by an ordinary person, it does not provide relevant data to Minnesota as they have not carried out relevant research.

Anton, P. A., & Temple, J. (2007). *Analyzing the social return on investment in youth intervention programs: A framework for Minnesota*. Wilder Research. Published by the National Federal Reserve Bank in Minnesota.

This report presents similar methods and procedures as described in the Youth Mentoring Program cited above. The only difference is this study focuses on Youth Initiative Program. The authors use Aos et al.'s (2001) study as the base for classifying the types of crime. Benefits of crime prevention are classified based on the types of

crime. Juvenile crimes include property crime committed by juveniles, larceny such as shoplifting, theft of bicycles, theft of contents from motor vehicles, and theft of purses or items such as iPods and other property crimes such as burglary and motor vehicle theft. In order to assess the benefits of reduced crimes, a number of estimates are used. Those are administrative costs associated with arrest and conviction, costs of treatments, cost of post-treatment probation, and costs to crime victims. Because it is difficult to find criminal justice processing costs per crime basis, they used several different sources of data to make conservative estimates. The authors also used costs of crime data presented in Cohen, Miller, and Rossman's (1994) study. The cost of a crime occurs in various stages of processing (arrests, arraignment, sentencing etc.). The researchers use a study on marginal operating costs of the criminal justice system conducted by Washington State Institute for Public Policy. This study provides data on administrative costs of a property crime per arrest for police and sheriff officers, conviction and prosecution costs in 1996 dollars.

Overall, this study presents a useful cost-benefit analysis model for Minnesota. However, the weak point of this study is it does not provide state specific data as the guide for future research in Minnesota. The researchers acknowledge the lack of a comprehensive database in Minnesota that can be used for future cost estimates.

Aos, S., Phipps, P., Barnoski, R., & Lieb, R. (2001). *The comparative costs and benefits of programs to reduce crime*. Version 4.0, Washington State Institute for Public Policy.

Aos et al.'s (2001) study has been cited by many researchers as one of the leading study that lays the foundation to measure the benefits of a reduced crime based on tax payers and crime victims' perspectives. Using secondary data, it analyzes 400 research studies carried out during the last 25 years in the U. S. and Canada. It uses comparative economic analysis to measure whether those programs reduce criminality of participants in comparison to a control group. In this study, reduced crime is taken as the only benefit indicator of crime reduction programs. Crime is broken down to seven types:

Murder/Manslaughter, rape/sex offenses, robbery, aggravated assault, felony property crimes, and drug offenses. The costs of a crime are measured using 14 sources of costs incurred in the process of reducing a crime.

This research covers different cost-benefit analysis for welfare reforms, criminal justice, education, youth violence prevention, and social services interventions that aim to reduce criminal behavior in Washington State. The analysis of those programs include standard economic outcome measures—net present values, benefits-to-cost ratios, and rate of return on investment for a range of programs. They broadly divided the research

literature into four categories—early childhood programs, middle childhood and adolescent programs, juvenile offender programs, and adult offender programs.

The participants of selected interventions are youth and adults who are already in the criminal justice system. Each intervention is independently assessed to determine the benefits over investment of tax payer's money compared to a non-intervention group. Most of these evaluations are limited to known effectiveness and to the studies done in other states of the U.S. and Canada. To fill the gap of data, the authors made several conservative assumptions in calculating benefits-to-cost ratio. Because they made conservative assumptions, a comparative study method seems like an appropriate research mechanism to present the results. In the second phase of evaluation, they used standard Meta Analytic-Method. The findings are exclusively applicable to Washington state to assess the return of each tax payer's dollar expend.

The cost structure used in this study is based on the Washington court system and economic costs applicable to it. This research model is suitable for measuring long-term cost and benefits. However, to apply this model to Minnesota, it requires reinvestigating and establishing a state specific cost system based on a suitable data collection system.

Cohen, M. A. (2000). Measuring the costs and benefits of crime and justice. *Criminal Justice*, volume 4. (pp. 266-308).

This is a guide to measuring costs and benefits of crime and justice service interventions. Cohen states that cost benefit analysis is a policy tool that has a history since 1940s in evaluating alternative river development projects. Costs and benefits need to be expressed in monetary terms. Cost effectiveness only requires that cost be monetized. Benefits still need to be expressed in some common denominator such as comparable crimes, comparable injuries, lost years of life, and so forth. This study suggests comparing costs and benefits of the intervention with another similar program.

Cost-benefit studies are calculated based on many assumptions because yet, there is no proper research base to solve many complications in calculating costs and benefits. Though there is a history of reporting costs of crime since 1970s, many such reports reported many difficulties in calculating true costs of a crime. There is a risk associated with calculating costs and benefits and it can harm an organization for misreporting the costs and benefits. Some of the risks are wrong comparisons and misreporting of costs. True costs of a crime is a sum total of many parts in the process. Many a time, costs are difficult to calculate without precise data about the participant, and the process of medical treatment, duration and the type of prison and correctional facility used for a particular crime and so on. This study provides sample calculations that show us the

many complicated process and steps needed to assess probably costs based on many conservative assumptions and is a good guide to future researchers.

DeBord, K. (2005). Communicating program value of family life and parenting education programs to decision makers. *Journal of Extension* 43(2). Retrieved on July 16, 2007 from <http://www.joe.org/joe/2005april/iw2.shtml>.

This is a cost-benefit study of parenting programs that include inputs such as health and wellness, early childhood education and family literacy. The expected outcomes are to prevent child abuse, create healthy family relationships, teach health practices, keep youth in school, and prevent substance abuse and teen pregnancy. This study seems somewhat similar to Phyllis Wheatley's family service programs. The authors suggest that cost-benefit analysis are complicated and projections are generally derived on randomized designs. The difficulty in justification of costs and benefits of this type of program is that there are no immediate return on the expenditure on social service programs.

This study uses longitudinal data from secondary sources. In addition, a sample survey was carried out to calculate the benefits and costs. It has found that parenting programs reduce costs such as school remedial services, criminal justice, and child welfare while averting tangible costs to victims of crime and maltreatment. Moreover, these programs increased the earnings capacity of program participants who then

contributed to the tax base. This study concludes that parenting programs bring returns to the public and to the participant families.

Department of Health and Human Services (DHHS). (2003) *Costs of intimate partner violence against women in the United States*. National Center for Injury Prevention and Control, Atlanta. Retrieved on July 16, 2007 from http://www.edc.gov/ncipc/pub-res/ipv_cost/IPVBook.Final-Feb18.pdf

This is a study carried out by the Department of Health and Human Services (DHHS) in the U. S. (2003) to calculate the costs of intimate partner violence (IPV) against women. The participants are mostly women victims of IPV. These acts of violence resulted in physical injury, psychological trauma, and some times deaths. The consequences may have had a lifetime effects (Gelles, 1997). In such IPV incidences, though most often health related costs for treatments to victims and offenders are available at individual level, the economic costs of IPVs are still remaining unknown (Gelles & Straus, 1990, Meyer 1992). Though many researchers have recommended having a national costs estimates for IPV related medical care, mental health care, police services, social services, and legal services (DHHS, 2003; Gelles & Straus, 1990), there is still only one study that contains national level cost estimates for violence among intimate partners (Miller, Cohen, & Wiersema, 1996).

Understanding economic costs of IPV helps policy makers and implementers in allocating resources more effectively and efficiently (DHSS, 2003). This cost-benefit analysis includes three indicators: (a) annual costs of medical care and mental health care, (b) lost productivity, and (c) the present value of lifetime earnings associated with IPV of women. The costs are associated with the victimizations that occurred in 1995. Certain costs such as mental health care for a given year underestimates the true cost because one can have mental care treatments over several years. Thus, this cost-benefit study relies on several estimations instead of collecting true costs due to its complicated nature and lack of central database that provides costs precisely. This study also uses separate cost estimates of direct and indirect costs derived using secondary and original field data sources. The indicators of costs used in this study are

1. Direct cost estimates: health care related expenditure such as emergency visits, hospitalizations, outpatient clinic visits, services of physicians, dentists, physical therapists, mental health professionals, ambulance transport and paramedic assistance. Total cost calculations were based on the unit costs of a particular services multiplied by the number of times that service was used (Bardwell, 2001).

2. Indirect costs were the value of lost productivity of both paid work and household chores for injured victims and the present value of lifetime earnings for victims of fatal IPV. The lost productivity was calculated by the number of days victims were unable to perform paid work and or household chores. A household chore also includes childcare for women who are not employed outside the home. The values of lost productivity was calculated using the mean daily values of work and household production based on the data from the U.S. Bureau of Labor Statistics (1996;1999). The present value of lifetime earnings was calculated by multiplying the number of IPV homicides for each age group by the average present value of the future earnings of women in those age groups. These calculations are based on different life expectancies of each age category. The incidences occurred within 12 months period was used to establish patterns of services used and loss productivity (DHHS, 2003).
3. The lost productivity is given in table 12 in the original document. The present value of lifetime earnings were calculated using discounting factors of future income.

In addition to secondary sources, this study had data collected from interviews. All women who were victimized regardless of injury were asked about their use of mental

healthcare services. Unit costs of medical and mental health care services for rape and physical assault victims were derived from Medical Expenditure Panel Survey (MEPS).

The unit cost of mental healthcare services for stalking victims were based on MEPS using mental health visits for women ages 18 and older (DHHS, 2003). Thus, this study found following costs:

1. The mean medical care cost per incident of IPV rape is estimated about \$ 516
2. The mean medical care cost per incident of IPV physical assault is estimated as \$ 548
3. The mean mental healthcare cost per incident of physical assault is estimated as \$ 269
4. Thus total medical and mental health care cost per victimization by an intimate partner was \$ 838 per rape, \$ 816 per physical assault, and \$ 294 per stalking (See table 13, p. 41).

The DHHS study (2003) refers to a study conducted by the Center for Disease Control and Prevention (CDC) that provides national estimates of the incidences of injuries resulting from IPV. This report includes estimated incidence, prevalence, and costs of IPV among U. S. women ages 18 and older. However, this study does not include the cost of lost productivity due to IPV's. Later, this study was further expanded to National Violence Against Women Survey (NVAWS). The NVAWS study (1995) includes definitions of different types of violence, estimated annual data about IPV and related costs. Thus, this study provides number of women injured, number of women used medical care for physical and mental health, number of women lost paid work and

household chores due to IPV. NVAWS and Uniform Crime Reports and the Supplementary Homicide Reports were used to measure the fatal and nonfatal IPV incidences, related healthcare services used by the survivors, and their lost productivity. Medical Expenditure Panel Survey (MEPS) (1996) was used to calculate unit costs of healthcare. Using the consumer price index, these unit costs were deflated to 1995 dollars. Sample Beneficiary Standard Analytic Files that reflects physician/supplier claims were used to calculate expenditure for ambulance and paramedic services. FBI sources were used to find the death due to IPV.

DHHS's (2003) study produces national level estimates that many researchers can use them as the basis for calculating economic cost savings of IPV service programs. However, following limitations are acknowledged by the DHHS study team (2003). The data are based on 1995 incidences and the present situation may differ. It uses averages rather than actual medical care costs. Further, several costs components were excluded from the study due to unavailability of data. A criminal justice cost (probably the highest cost) and the current unit costs are also eliminated as they do not allow for reliable nationally representative cost estimates. Some medical care costs such as homecare visits, treatment for sexually transmitted disease, and terminated pregnancies are also excluded. Further, women's shelters, counseling clinics, moral support, financial support

from friends, families, medical or mental care for treating children, foster care for children, and value of time lost from volunteer work, school, social, and recreational activities were excluded. Some data were collected from victims of nonfatal IPV but no data for treatment of victims who died as a result of IPV is available.

Limitations of medical care data were that many victims do not report associated physical symptoms such as headaches, reproductive health problems, chronic pain, digestive problems and sleep disturbances. The limitations of mental healthcare are that victims may receive care from many people other than mental health care providers. There is a possibility that some people who received treatments may not disclose as that the cause was IPV incidences, instead they may report as injuries resulting from other causes. Further, the costs of unmet mental health needs were not estimated. In certain instances there can be double counting or over reporting. For example, health care costs of physical assault can be included under rape or some other cost categories. Hence, there are several limitations cripple the realistic estimates of costs and cost savings.

Thus, DHHS study suggests collecting more data to fully appreciate the economic and human costs of IPV. Some suggestions point to the (a) need for standard definitions of IPV, (b) expanded quantitative data collection efforts, and (c) employ a variety of research methods to gather qualitative data. This study also recommends

collecting more in-depth qualitative data about indirect or intangible costs of IPV using in-depth interviews with survivors and service providers.

Fields, J. M. & Smith, K. E. (1998). Poverty, family structure, and child well-being: indicators from the SIPP. U. S. Bureau of the Census.

This study examines child-well being data based on six Survey of Income and Program Participation (SIPP). The intention of the study is to measure child-well being using grade, stress and social capital at the family, household, and neighborhood level. It provides relationship with family and parent status to child well-being. The following are correlations found between family/parent status and child well-being:

1. How family structure relate to child well being? Researchers found that family and school expectations and interactions and other sources of social capital available to child are important factors of influencing cognitive ability, academic success, engagement in school, and high school completion (Astone & McLanahan, 1991).
2. How single/two parent/s affect child well being? Children in two parent families fare better than single-parent children. Children living with two biological parents are less likely to have problems that children living with one biological parent and one step parent (Astone & McLanahan, 1991). Children of divorced families are having the most problems (McLanahan & Sandefur, 1994). Children with divorced or single parent are shown low academic achievement such as repeated grades, low marks, low class standing, increased likelihood of dropping out of high school or early child bearing, increased level of depression, stress, anxiety, and aggression (Amato, Loomis, & Booth, 1995; Astone & McLanahan, 1991; Dawson, 1991; McLanahan & Sandefur, 1994). Two parent families have higher expectations for children.
3. How poverty of parent affect child well being. This study found that income status has relationship with higher school achievements.

4. Investment in children and promoting their successful development is intertwined with the concept of social, financial, and human capital. Social capital has relationship to parents' educational level. This can be measured by density of interactions among parents, children, and schools, parent-child interaction, interactions between neighbors, and communities.

5. Family and household affection and interaction has positive effects on child well being.

The findings of this study are useful for identifying the measurable impact indicators of the PWCC's parenting program intervention.

Miller, R., Cohen, M. A., & Rossman, S. B. (1993) Data watch: Victim costs of violent crime and resulting injuries. *Health Affairs*, pp. 186-197, retrieved on 01/12/07 from www.datawatch.com

This study focuses on identifying and quantifying costs of violent crimes using nationally available data sources on a long-term basis. It is a comprehensive study done so far and many researchers use this study as the foundation for estimating different costs related to violent crimes in the U. S.

This study uses secondary data available in several published sources to calculate costs of victimization. However, their findings are cited as preliminary because of inaccuracy of data and the limited data sources. For example, they used National Crime Survey (NCS) data to calculate unit cost of a crime injury based on 1987 NCS data and police reports. It also uses several assumptions to calculate many different costs associated with violent crimes and to find average investigation costs.

This study cites NCS as the most comprehensive source of information which includes frequency and outcomes of non-fatal rapes, robbery, and assaults due to violence. It also includes non fatal victimization, physical injury, work losses, and several other selected costs. However, the NCS does not include costs for incidences of children under age 12, military personnel, institutional and homeless, child abuse, elder abuse, and spousal assault due to family violence. Secondly, the National Fire Incident Reporting System (NFIRS) is used to find data related to civilians and firefighters' injuries to calculate fatal and non-fatal injuries due to arson fires. Distribution of injuries in arson fire data are estimated based on NFIRS records. Thirdly, it uses Uniform Crime Reports (UCR) compiled by the Federal Bureau of Investigations (FBI) to find data about fatal injuries, rapes, robbery, assaults, and known deaths. Fourthly, it uses Detailed Claims Information (DCI) database of the National Council on Compensation Insurance (NCCI). This database has longitudinal data of medical care costs of a random sample of 450,000 victims of disabling workplace injuries between the years 1979 to 1987. DCI provides unit costs of burns and smoke inhalation. In addition, they assumed that "average medical costs per arson-related injury are the same as for comparable injuries" such as broken bone, assault and robbery victims (Miller, Cohen, & Rossman, 1993, p. 188). However, these costs are considered incomplete as it may not include all other

related costs such as elder's injury or resulting injuries of higher risk in later stage of lives. Some other data are based on Police Department crime investigation reporting data and many other research that are carried out in other states in the U. S.

This study uses three indicators to calculate costs.

1. Direct losses other than property: costs of medical care, mental health, emergency response services, and insurance administration.
2. Productivity losses: loss of wages, fringe benefits, and housework
3. Non-monitory losses: pain, suffering and lost quality of life. They excluded property losses and costs incur to society for preventive measure of future crimes.

It presents two sets of cost estimates: the first set includes cost per physically injured crime victim and the second set—murder is treated as a separate category. The second set includes costs per victimization associated with completed or attempted crime. It includes many types of crimes depending on the cause. They are a rape murder victims is considered as a rape victim, a murder during robbery is considered as a robbery victim, and a murder due to quarrel is considered as an assault victim.

For calculating average medical costs of a fatal injury, they use Dorothy Rice and colleague's database: "costs of crime in the United States." Since no data about crime victims using mental healthcare, the researchers used average mental health care costs incurred by people who won jury verdicts. For example, they calculated emotional distress cost as \$ 4160 and fatal psychological injury cost is equal to \$ 24,800. Thus, they estimated mental health cost per rape, robbery, assault, and arson separately. The

rates are based on Vanderbilt/Urban Institute Cost of Crime Study in 1993. Miller et al. (1993) stated that “emergency response costs are derived from reported crimes” (p. 190). Thus, they investigated relevant police departments to find follow-up investigation times and the time spent by type of crime. The unit costs of police response was calculated using salary, fringe benefits, and average administrative overhead data multiplied by average time spent per crime by types of crime.

Emergency transportation costs were calculated based on 1980 National Medical Care Utilization and Expenditure Survey (NMCUES). This survey includes estimate of average emergency transport costs for hospitalized non fatal injuries as \$ 144 per one way transport. Here they used arbitrary assumption that all inpatients received ambulance and non inpatients did not receive any emergency transportation. They also assumed that emergency transport and coroner costs for highway crash fatalities were equal to homicide costs.

To find productivity losses of injured persons they used 1987 data about productivity loss to calculate present values by discounting at 2.5 percent rate which was used by the courts in compensating liability. The data are based on victim’s age and sex and not by the income level or other demographic characteristics. For victims of non-fatal injury, they used NCS data that is related to workdays lost. Thus, lost wages per day

is equal to average daily earnings in private non agricultural industries. Miller et al. (1993) state that “lost housework days were estimated at 1.5 times the number of lost workdays for those who reported employment except students” (p. 190). In addition, they used estimated costs for housekeeping services as \$ 5,169 for the employed and \$ 9131 for the non employed based on Douglas and colleagues’ report.

To calculate lost school days for student victims under age 19, the lost school days were assumed as equal to average workdays per worker and it was reduced by 25 % to match the seasonality of the school year. Thus, each lost school day was valued as 23.96 dollars. The average days per school year was counted as 166 days. Arson related productivity was estimated in the same manner they estimated medical costs.

Long-term loss of productivity of hospitalized victims of crime injuries was calculated based on International Classification of Diseases (ICD) distribution of hospitalized victims of rape, robbery, and assault in other states such as California, Washington, and Vermont. To calculate the productivity loss of non-hospitalized crime victims, they used a convenient sample of 21 emergency rooms that has the required data. To estimate physical injuries due to rape, robbery, and assault, they multiplied the number of cases by ICD code and hospitalization status times the corresponding DCI probabilities of permanent and partial disability to get probabilities of types of crime and

hospitalization status. In that they combined the hospitalized and non- hospitalized probabilities using NCS hospitalization rates.

Average cost per homicide (\$ 610,000) was used to calculate the productivity loss due to permanent disabilities. Thus the long term productivity losses average \$ 1,261 for rape, \$ 741 for robbery, \$ 476 for assault, and \$ 1,411 for arson.

Administrative cost of health was estimated as \$ 47,000 per U. S. adult and the cost factor was used only for adult victims.

The non-monitory costs of intentional injury such as pain, suffering, and fear were estimated based on jury compensation and willingness to pay. Willingness to pay amounts was estimated based on a survey that reflects the amounts people are willing to pay for safety based on a few jury awards (jury verdict data) in Louisiana.

Loss quality of life was calculated based on physicians ratings of typical functional capacity loss by injury on six dimensions: cognitive, mobility, sensory, cosmetic, pain, and activities of daily living. In addition, the researchers added a work related disability dimension based on the DCI disability probabilities. Thus, they estimated total costs for all three major indicators: physical injury related costs, mental health costs, and quality of life in 1989 dollars.

Even though this study uses a variety of sources and complicated method of calculating costs for the selected indicators, yet, it is considered as preliminary and imperfect. It cites that there is a possibility that victims may forgotten the costs and minor incidences, some of the hospital bills come way after the treatment and the victims may not have clear understanding of the costs or those bills may have gone directly to the insurer. Further, the sample is not random hence; it lacks generalizerbility (Miller, et al., 1993). However, this study can be used as foundational to estimate costs such as loft quality of life.